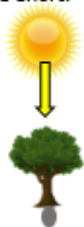


As the earth spins, it makes the sun appear to rise in the east in the morning. Because the sun hits an object at an angle, the shadow is long.



As the earth continues to spin the sun is overhead by midday. Because the sun hits the object from above, the shadow is short.



As the earth spins and the sun sets in the west in the evening, the shadow is long.

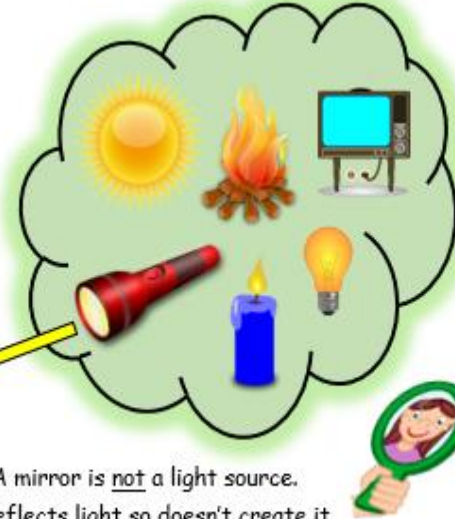


Because light travels in straight lines, when it hits an object, it is blocked. It can't bend around the object so it casts a shadow.

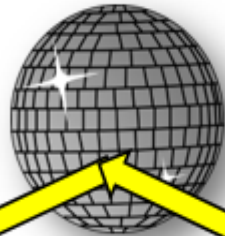
Light travels in straight lines. It travels from the light source either directly into our eyes, or reflecting off objects at 670 million mph.



LIGHT SOURCES



A mirror is not a light source. It reflects light so doesn't create it.



When light hits a smooth object, it bounces off (reflects) making it appear shiny.



Opaque: This is the name given to objects which light *cannot* travel through. They block light and create shadows

Translucent: This is the name given to objects which *some light can* travel through.

Transparent: This is the name given to objects which light *can* travel through.

- 1.) We can see objects because light reflects off them and into our eyes.
- 2.) Light reflects off most objects, especially colours like white and yellow.
- 3.) If there is no light at all (pitch-black), then there is no light to reflect and we can't see anything at all.
- 4.) At night you can still see a bit in the dark because the moon is reflecting light.



| | |
|--------------|--|
| Eyes | Globular organs of sight in the head of humans and vertebrate animals |
| Filter | Pass through a device to remove unwanted material (liquid, gas, light or sound) |
| Light | The natural agent that stimulates sight and makes things visible |
| Light source | Something that provides light, whether it be a natural or artificial source of light (e.g. the sun, a torch) |
| Periscope | An apparatus consisting of a tube of attached to a set of mirrors or prisms through which an observer can see things that are otherwise out of sight |
| Rainbow | An arch of colours visible in the sky, caused by the refraction and dispersion of the sun's light by rain or other water droplets in the atmosphere |
| Reflection | The throwing back by a body or surface of light, heat or sound without absorbing it |
| Refraction | The bending of light as it passes from one substance to another with the bending caused by the difference in density between two substances |
| Shadow | A dark area or shape produced by a body coming between rays of light and a surface |
| Spectrum | A band of colours, as seen in rainbows, produced by separation of the components of light by their different degrees of refraction |

Rainbows are formed when the sun shines through water particles (transparent) and when white light passes through, it 'bends' and splits into the range of colours which make white light

ROY G. BIV

